AD-A261 733

IENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	June 1992	Final Report (07-91 to 07-92)

4. TITLE AND SUBTITLE
A Study of Marketing Strategies for the Enhanced Utilization of Partnership Cardiovascular Services at USAF Medical Center Wright-Patterson

5. FUNDING NUMBERS

6. AUTHOR(S)
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7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
USAF Medical Center
Wright-Patterson, OH
45433-5300

8. PERFORMING ORGANIZATION REPORT NUMBER
33C-92

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Army-Baylor University Graduate Program in Health Care Administration
Academy of Health Sciences, U.S. Army (HSHA-MH)
Fort Sam Houston, TX 78234-6100

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

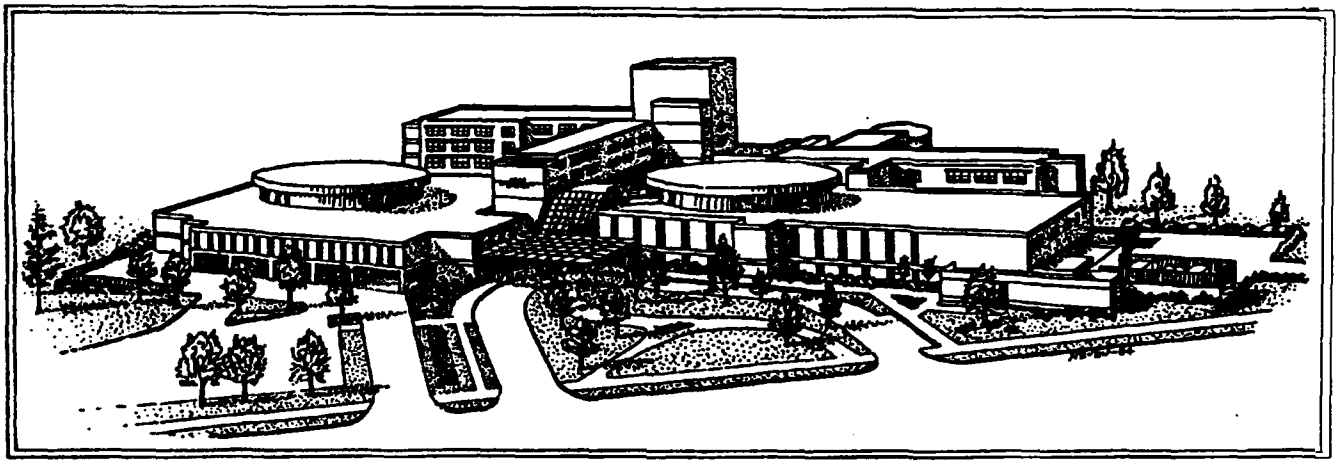
14. SUBJECT TERMS

15. NUMBER OF PAGES
49

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
N/A	N/A	N/A	UL

A STUDY OF MARKETING STRATEGIES FOR THE ENHANCED UTILIZATION OF PARTNERSHIP CARDIOVASCULAR SERVICES AT USAF MEDICAL CENTER WRIGHT-PATTERSON



A Graduate Management Project

Submitted to the Faculty of

Baylor University

in Partial Fulfillment of the

Requirements for the Degree

of

Masters in Health Administration

by

Frank W. Palmisano, Captain, USAF, MSC

June 1992

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ABSTRACT

This graduate management project has attempted to initiate the design of a marketing strategy that will increase utilization of civilian partnership cardiovascular surgical services at a large Air Force medical center. This study was an expansion of a previous U.S. Army-Baylor University graduate management project performed at USAF Medical Center Wright-Patterson (WPMC). The previous study hypothesized that "...additional cardiothoracic ... workload may be available in the local catchment area" (Lewis, 1991). While projecting surgical workload can prove to be very difficult, the data in this case clearly shows that projected workload and market share estimates were not met at this facility.

The author describes previous efforts made to estimate projected utilization, and reviews utilization data collected to date. This study also includes a review of the facility's marketing efforts to date, its strategic plan with regard to marketing, and also any command philosophy as it pertains to the increased usage of specific services at an Air Force Medical Treatment Facility. Two specific protocols for the design of a marketing plan are outlined, and a compilation of ideas from these two sources are presented as an example for use at this facility.

This graduate management project might best be used in the facility to begin the design of a coordinated marketing strategy that will increase the workload of the current system as well as prepare for any possible expansion of surgical capabilities in the future, to include designation of WPMC as a DOD Specialized Treatment Facility for cardiac services. The ultimate goal of this marketing effort should be improved local and regional recognition of the program by both providers and beneficiaries, with the goal of increasing utilization of Partnership cardiovascular surgical services at USAF Medical Center Wright-Patterson.

ACKNOWLEDGEMENTS

I would like to thank my wife, Faye, for her love, patience, and support during this difficult year. I would also like to thank my preceptors, Colonel Terry Cunningham and Lieutenant Colonel Bob Murray, for their help and wisdom, and the countless opportunities to learn that both made available to me. Finally, I would like to thank the staff and faculty of the U.S. Army-Baylor program, espescially Colonel George Gisin, for their assistance and professionalism in helping me through a variety of unusual personal experiences. Last, but certainly not least, I would like to acknowledge that I learned as much from my fellow classmates and their wealth of experience as from my own efforts. Thanks for a great year with the Army!

I. INTRODUCTION

1.1 Conditions Which Prompted the Study:

This study is the result of a previous paper that examined surgical service utilization at USAF Medical Center Wright-Patterson (WPMC). The stimulus for both of these efforts was a major military construction project at WPMC that was designed to upgrade and expand the existing facilities. This construction project was initiated in September of 1982, with completion and acceptance occurring in late 1989. During the long course of this modification, surgical capabilities diminished considerably. This decrease in inpatient surgical workload was followed by a marked increase in local CHAMPUS expenditures between 1983 and 1988, with an accompanying decrease in direct care workload and increases in both supplemental and alternative care expenditures. The previous study showed that as a result of a concentrated effort by WPMC management, in-house surgical capabilities were enhanced dramatically after completion of the facility modification without significant additions of Air Force manpower. The key to the increase in surgical capability and the re-capture of in-house surgical workload were two innovative alternative uses of CHAMPUS funds designed and implemented by the management team. These alternatives included: 1) increased staffing (civilian operating room personnel, postanesthesia care unit personnel, and surgical intensive care unit nurses; partnership Certified Registered Nurse Anesthetists; and contract anesthesiologists), supplies and equipment through an "Expanded Surgery" initiative to support surgeries on CHAMPUS-eligible patients; and 2) initiation of an internal partnership cardiovascular surgery program to allow performance of a limited range of open-heart cardiac procedures on CHAMPUS-eligible patients at WPMC.

The original study revealed that of the eleven surgical specialties surveyed at WPMC, cardiovascular surgery comprised the smallest percentage share of both the local surgical market (114 of 737 cases [23.6%]), and of the regional market (114 of 13,133 cases [1.3%]). The fact that this situation could exist even after the implementation of a dedicated management effort to increase surgical capabilities might indicate other possibly unidentified problems in the local and regional DOD markets. These might include the following: a) estimate of potential market size was too high; b) population healthier than the rest of the population; c) use of 3rd party or supplemental insurance; d) changes in referral patterns of DOD physicians within both the local area and DOD Health Care Region VI; and e) changes in the knowledge and consumption preferences of eligible DOD health care consumers within both the local area and the region. It seems likely that changes to physician referral patterns, as well as patient perceptions and preferences, might be a result of the decrease in patient care capabilities resulting from the long-term facility modification discussed previously.

1.2 Statement of the Management Problem:

It appears that workload for the partnership cardiovascular surgical program at WPMC is below both the capacity of the facility and the capabilities of the cardiovascular surgical team. The focus of this study is to research possible causes for this unexplained underutilization in order to develop an overall strategy of coordinated steps that will increase both local and regional cardiovascular surgery referrals.

1.3 Review of the Literature:

An important factor for setting the stage for both this proposal and on-going research into this subject at WPMC is a definition of both the desired outcome and the factors that might affect the outcome. For this study, I will define the desired outcome as determining the potential for "increased cardiovascular surgical utilization at USAF Medical Center. " The factor(s) vital to the utilization of these services are the "customers served by USAF Medical Center Wright-Patterson's cardiovascular surgical program." What is important here is to define who the customer is. Hillestad and Berkowitz state that "the first step in any marketing problem is to think about and try to understand the customers. These customers may be physicians, accountants, social workers, or human resources vice presidents. In any case, the most important, seemingly simple step is to think about the people who need the organizations services."

As the result of a previous Graduate Management Project performed at WPMC by Captain Danial Lewis, it would appear that sufficient market area research has been done to continue the process of developing a marketing plan. This proposal suggests that closer attention be paid to another set of customers within the local catchment area and DOD Healthcare Region VI: physicians. The concept of catchment area is defined here because it has become apparent that the WPMC catchment area does not fit the standard definition of a 40-mile circle based on patient zip code. A quick look at a map reveals that two large metropolitan areas lie just outside the 40-mile circle: the Cinncinati-Covington area to the south, and Columbus to the northeast. In addition, with the projected closure of Fort Benjamin Harrison and Grissom AFB in the Indianapolis area (within 100 miles), demand for

services within WPMC's catchment area is likely to increase. Why would WPMC want to increase its cardiac surgery workload? A number of excellent reasons include increased facility utilization, enhancing the skills and knowledge of providers, meeting the needs of the patient population, and, most importantly, saving CHAMPUS dollars. Mary Wagner stated in Modern Healthcare that "...most community hospital managers agree that cardiac services have an image-enhancing effect and generate admissions for other hospital services" (Modern Healthcare, 0ctober1990). A key element in the continued development of the skills and knowledge of physicians is the availability of a referral network. D'Amaro and Pahwa (1990) define referral systems as "a network of formal and informal relationships among providers of care that directs the flow of patients throughout the delivery system." What is vital to the success of cardiovascular surgical services at WPMC (i.e., increased workload) is additional market research into provider attitudes about these and other available services. "Market research of the provider side, in addition to assessing the competitive aspects of the market, should also attempt to identify the key physicians...who will use the proposed facility or act as referrals" (Zasa and Unger, 1988). Once these "key physicians" have been identified, it is important to keep them informed and involved in the referral process. Both sets of primary customers (ie, patients and physicians) appear to have been screened from receiving adequate information about services available at WPMC. Patient education through normal Air Force health promotions, wellness, and patient education mechanisms would seem to be the most effective method for educating the patient population about the services available at WPMC. Mackesy and Mulligan state that "the referral process involves the referring physician's assessment of a variety

of factors, which have been identified as physician and patient related." In discussing the implementation of a physician referral program for the Watson Clinic in Florida, Mackesy and Mulligan identified five important components: 1) a "referring physician service;" 2) "new service/physician announcements;" 3) "physician directory/rolodex;" 4) "newsletter;" and 5) a "medical education process." It would seem that new service/physician announcements and involvement in an on-going medical education program would be the most effective for WPMC. In his Graduate Management Project, Captain Danial Lewis quotes Pegel and Rogers (1988), who "...view market, service segment, and service area analysis as an integral part of the strategic planning process." Accordingly, a review of both the strategic plan and attitudes of senior management about both the strategic plan and the strategic planning process will be an important aspect of this study. However, it seems that more effort needs to be put into identifying and educating a local and regional referral system so that WPMC can not only increase cardiovascular surgical service utilization, but enhance more effective and efficient utilization of other services as well. This increase in utilization of WPMC as a regional referral center can only have positive benefits for all concerned. "Strategically structured affiliations build regionally integrated systems that can offer medical care at varied levels of expertise. When this strategy reaches its optimum organization,... benefits are realized at each level of the system. These benefits include improved quality of care, increased admissions, decreased duplication of services, and improved redistribution of clinical resources" (Spraberry, 1990). In reviewing the current literature on the marketing of health care services, it seems that attitudes about marketing in the public sector are changing. Reflecting the

gradual change in this attitude in the private sector, marketing of public sector (ie, Department of Defense) medicine is increasingly no longer being viewed as "unprofessional" or "unethical." In fact, with the increasing emphasis on continuous quality improvement and customer focus, marketing might be considered one of the most important tools available. Crompton and Lamb agree when they quote Peter Drucker as saying, "The aim of marketing is to know and understand the customer so well that the product or service fits him and sells itself." It is important to understand that there are differences in the marketing approaches used in the public and private sector. In an August 1990 article in Military Medicine, Major David Rubenstein quotes the authors of a marketing plan for the Walter Reed Army Medical Center Surgical Center as saying, "...the broad areas of differentiation are found in economic elements of the two health care systems, the types of patients seen, the location of health care in relation to the patient's home, and the type of facility to be marketed." In addition, the differences in the economic motivations of providers and patients between the military health care system and the private sector causes problems in the application of marketing strategies developed in the civilian sector. However, even when all these factors are considered, marketing as a tool to better understand the needs and wants of both the patient and provider populations is invaluable. "Private sector marketing knowledge is transferable to government and social agencies, but it has to be adopted and modified for the public sector context" (Crompton & Lamb, 1986). In his paper, "A Model for Marketing in the Military Health Care Setting", Major David Rubenstein quotes Bell, Crompton, and Lamb as saying, "The marketing plan is the essential tool that establishes an organization's philosophy, goals, and desired

techniques for communicating with, and educating, its public." This is especially true in Department of Defense health care facilities that are trying to control utilization and costs while providing access to quality care using the concept of coordinated care. An important aspect of marketing mentioned frequently in both the literature and in Army-Baylor University MHA program class presentations is the importance of marketing to all of the customers in the DOD health care marketplace, with special emphasis on the consumers of health care services (ie, the patient), and the providers of health care services (ie, the physician). Since patients typically have very limited input into admission decisions, it is vital that the physician becomes the focus of the marketing process. The first step in developing a marketing strategy for a medical treatment facility is to perform a market assessment. This should include both the knowledge base and the attitudes of providers that use WPMC as a referral center. It is very possible that local and regional providers are unaware that WPMC now has a partnership agreement with a civilian provider group to provide a full range of cardiovascular surgical and enhanced cardiology services and, as a consequence, are not referring possible surgical candidates to WPMC. An anecdotal example provided by the Chief of Cardiology at WPMC is that physicians at USAF Medical Center Scott, near St. Louis, refer all their cardiovascular surgery patients to USAF Medical Center Keesler, rather than to WPMC - even though Scott is within DOD Healthcare Region VI and closer geographically. Rubenstein lists as one of his six marketing objectives that facilities must "... foster and encourage an innovative approach by staff members to the mission of educating all internal and external interest groups." In his book, "The New Medicine," Coile discusses the concept of "marketing an intangible product:

quality health care." Coile quotes Ted Lewis in presenting "seven principles of innovative marketing." In my opinion, the most important of these to WPMC is "differentiation." Lewis feels that "...the secret to gaining market share is differentiation from competing products." In addition, "In health care, the factors that consumers use to discriminate...include reputation, medical staff, high tech equipment..." (Coile, 1990). There are numerous sources that detail a variety of methods of developing a marketing plan. Two outlines that have been presented in the literature for this purpose will be presented in this paper in order to compare and contrast two different approaches. The first outline was presented by Major David Rubenstein in the August 1990 edition of "Military Medicine," and is based on the work of Kotler and Andreasen. This "Format of the Marketing Plan" lists seven steps that can be listed in the development of a marketing plan. A second approach as described by Lehmann and Winer in "Analysis for Marketing Planning" (1991), utilizes an eight-step model that is slightly more detailed and presents better options than the previous plan.

In addition, I will briefly discuss what Rubenstein calls the "Marketing Planning Process for Military Medical Facilities." This 10-step process lists the steps required to develop an overall strategy for the marketing of the delivery of health care services in a DOD medical treatment facility. While I will not discuss this plan at length, it is a model that could be used to advantage in this facility. It would be my goal to begin the development of a marketing plan during my residency at WPMC in order to make the marketing of health care at this medical treatment facility a reality.

1.4 Purpose:

The purpose of this study is to develop a coordinated marketing strategy designed to enhance the continued utilization of partnership cardiovascular surgical services at WPMC. A vital part of this study will be to demonstrate that increased utilization by all or selected categories of eligible beneficiaries and providers within the local and regional service areas is possible. In doing so, I will attempt to determine causes for past and current underutilization and projections for increased utilization, as well as make recommendations for changes that might improve utilization of partnership cardiovascular surgical services.

II. METHODS AND PROCEDURES

2.1 Methodology:

Much of the methodological basis for this study comes from a previous U.S. Army-Baylor University Graduate Program in Health Care Administration Graduate Management Project (GMP) by Captain Danial P. Lewis entitled "Market Analysis for Expansion of Surgical Services at USAF Medical Center Wright-Patterson." He established that "... management must develop specific strategic objectives with respect to the expansion of surgical services." An important benefit of the paper by Captain Lewis is that two vital functions required for further study in this area have already been accomplished.
In the "Methods and Procedures" portion of his GMP he determined the baseline geographical and demographic distribution of eligible beneficiary distribution when he discussed "Measuring Geographic Market Size" and "Measuring Demographic Market Size." This data was obtained from a subset of the Defense Medical Information System (DMIS) called the Resource

Analysis and Planning System (RAPS). In addition, specific to this study on the marketing of cardiovascular surgical services at WPMC, Capt Lewis states that "market intelligence must be integrated with strategic planning." The specific procedures used in this study to determine the current status of marketing efforts at WPMC comes from Kotler and Andreasen's "Strategic Marketing For Nonprofit Organizations." The authors present a seven-part "Format of a Marketing Plan" that offers a standard format for the evaluation of marketing efforts.

2.2 Determining Demographic and Workload Data:

The first step in the research will be to review and update demographic data for both the catchment area and DOD Healthcare Region VI, as well as a projection of potential beneficiary distribution and workload data. It is important to note here that Captain Lewis questioned the validity of workload and expenditure estimates obtained from RAPS since it was based on Fiscal Year 1989 data. The major construction project at WPMC had not yet been completed when this baseline was established, which would tend to artificially decrease these estimates. In addition, the planned consolidation of Air Force Logistics Command and Aeronautical Systems Division to form the Air Force Materiel Command had not been forecast. If these discrepancies can be shown to have been taken into account, the reliability and validity of these estimates can be established.

An additional source of data has recently been made available at USAF Medical Center Wright-Patterson. In March of this year, the Air Force Office of Medical Support (AFOMS) computer systems personnel made the Financial Accounting Support System (FASS) software available to the

Managed Health Care directorate at WPMC. FASS is an on-line data base that will make more current workload and cost data available to DOD medical treatment facilities. Some of the data used to update the workload estimates in this paper came from the FASS. This system could prove to be a valuable addition to any marketing efforts within this facility.

The next step in the research process will be to examine the steps that led to the approval of a partnership cardiovascular surgery program at WPMC, with the intent of determining workload data prior to in-house cardiovascular surgery. After determining the workload data that led to the partnership cardiovascular surgical program, the workload data for the period since implementation of that program will be presented. It is also hoped that workload data for cardiovascular surgery paid for by CHAMPUS within DOD Healthcare Region VI is available for comparison.

2.3 Formats for a Marketing Plan:

The following section presents two formats for the development of a marketing. The first example was taken from the work of Kotler and Andreasen by Major Rubenstein in the development of a marketing plan at William Beaumont Army Medical Center. The second example was developed by Lehmann and Winer, and consists of eight sections. The major sections as described by the authors are listed below for comparison, with a brief description of each topic in the following sections:

Kotler and Andreasen	Lehmann and Winer
1. Executive Summary	1. Executive Summary
2. Situation analysis	2. Background assessment
3. Objectives and goals	3. Marketing objectives
4. Marketing strategy	4. Marketing strategy
5. Action programs	5. Marketing programs
6. Budgets	6. Financial Documents
7. Controls	7. Monitors and controls
	8. Emergency Plans/other documents

A description of the Kotler and Andreasen format is as follows:

EXECUTIVE SUMMARY: The marketing plan should open with a brief summary of the recommendations, objectives, and goals developed in the plan, as well as a table of contents.

SITUATION ANALYSIS: This section is used to describe the major factors that are confronting the organization, and consists of four key areas:

A. Background

B. Normal Forecast

C. Opportunities and Threats

D. Strengths and Weaknesses

OBJECTIVES AND GOALS: "The situational analysis describes where the organization stands and where it might go. Specific goals and objectives must be set up to propose where the organization should go."

MARKETING STRATEGY: "...the fundamental logic by which an organizational unit tends to achieve its marketing objectives. Marketing strategy consists of a coordinated set of decisions on:

A) target markets
B) marketing mix
C) marketing expenditure level."

ACTION PROGRAMS: The specific actions thought to be required by the marketing team for accomplishing the goals and objectives of the marketing plan, usually set out for the upcoming year.

BUDGETS: "The goals, strategies, and planned actions allow the manager to build a budget that is essentially a projected profit-and-loss statement."

CONTROLS: The method executive management uses to monitor the progress of the marketing plan. Since specific goals and objectives should have already been set out in the plan, review should be relatively simple.

A second format presented by Lehmann and Winer consists of eight steps as listed here, along with details about the specific topics. This format for a

marketing plan is slightly different and more refined than the previous Kotler and Andreasen format:

I. Executive Summary: "A one- to three-page synopsis of the plan providing highlights of current situation, objectives, strategies, principal action programs, and financial expectations."

II. Background Assessment

A. Historical appraisal - To include:

1. Market - history
   - potential
2. Market activity
3. Sales, costs, and gross profits
4. Technology
5. Market characteristics
6. Government and social

B. Situation analysis

1. Sales analysis
2. Industry attractiveness analysis
3. Customer analysis
4. Competitor analysis
5. Resource Analysis

C. Planning assumptions

III. **Marketing objectives**

A. Corporate objectives

B. Divisional objectives

C. Marketing objectives

IV. **Marketing strategy**

A. Strategic alternatives

B. Customer targets

C. Competitor targets

D. Core strategy

V. **Marketing programs**

A. Pricing

B. Advertising/promotion

C. Sales/distribution

D. Product development

E. Market research

VI. **Financial documents**

A. Budgets

B. Pro forma statements

C. Profits

VII. **Monitors and controls**

A. Secondary data

B. Primary data

VIII. Contingency plans and other documents

A. Contingency plans

B. Alternative strategies considered

As is obvious by this comparison, these two outlines for marketing plans are very similar. After reviewing them, I decided to use a combination of aspects from both models. While the two are very similar, the Lehmann and Winer model seems to have added a few more viable steps, especially the change from a "situation analysis" to a "background assessment" that includes the situation analysis and several other processes, as well as the addition of a step for contingency planning.

III. RESULTS

3.1 Demographics:

As a result of the "BRAC" (Base Realignment And Closure) initiatives pursued by Congress and the reduction in forces as a result of changing world conditions, DOD will experience a marked downward trend in manning over the next few years (an estimated 25% decrease by 1995). As demonstrated in Figure 1 (*see page 38*), the active duty and dependent of active duty population in the WPMC catchment area will decline slowly in the next decade. At the same time, the retiree and dependent of retiree population will increase slowly. Overall, this will produce a slight decrease followed by a slow increase in beneficiaries during the next 10 years. Research shows that a similar trend will occur in DOD Healthcare Region VI. Figure 2 (*see page 39*) is a visual representation of population trends in eight of the 10 states that comprise DOD Healthcare Region VI from Fiscal Year 1982 through Fiscal Year 1990. All show slight decreases followed by slight increases.

It is easy to assume here that the same trends that apply to the population at large will affect the Department of Defense beneficiary population - that is, the population is both getting healthier at the same time it is getting older. Even with the decrease in the number of active duty and active duty dependents as a result of the Base Realignment And Closure initiatives and the changing world situation, the overall DOD beneficiary population will not decrease significantly in the near future. Figure 3 (*see page 40*) demonstrates the expected decreases in population at four specific bases in three areas within the region. An estimated overall decrease of 35,442 active duty and dependents of active duty within DOD Healthcare Region VI is anticipated. Unfortunately, these base closures will leave an estimated

170,000 beneficiaries (retirees, retired dependents, survivors, and others) without direct access to a military medical treatment facility. While this population was not guaranteed health care for life (as they sometimes express), the Department of Defense must continue to ensure that care is available while costs are being contained.

3.2 Workload Data:

At the same time that the previously mentioned "Expanded Surgery" initiative was being implemented, executive leadership at WPMC felt that enhancement of surgical services to include cardiovascular surgical services was warranted. There were several reasons listed in the proposal submitted to the Surgeon General of the Air Force for this decision. The "Background Needs" section of the proposal starts with the following phrase: "The primary reason for implementing cardiac surgery at this medical center is to support the regionalization concept in the populous DOD Region VI area." This proposal details the concurrent increase in utilization and costs for these services that had been noted within the WPMC catchment area. The opening paragraph of this document also states that: "The patient population is sufficient in Region VI to support a surgery program." The second reason listed for requiring cardiovascular surgical capability in-house was "patient liability." Prior to the submission of this proposal, the chief of cardiology at WPMC had been performing PTCAs (Percutaneous Transluminal Cardiac Angioplasties) for almost a year with good results (49 procedures with no failures) without in-house surgical back-up. In August of 1988, a joint task force from the American College of Cardiology and the American Heart Association published a special report in **Circulation**, the American Heart

Association journal. This special report outlined "Guidelines for Percutaneous Transluminal Coronary Angioplasty". Under section II.E., "Need for Surgical Backup", the task force wrote that "An experienced cardiovascular surgical team should be available within the institution for emergency surgery for all angioplasty procedures" (Circulation, August 1988). After this report, all WPMC PTCAs were performed by the chief of cardiology at Miami Valley Hospital, which was an inconvenience to both patients and staff. This change in the standard of practice for the performance of PTCAs was seen as a major reason to perform open-heart surgery in-house. The final reason listed for this proposal was the apparent lack of cardiovascular surgical support from the four closest DOD facilities performing open-heart surgeries: Walter Reed Army Medical Center (Washington D.C.); Brooke AMC (San Antonio, Texas); Wilford Hall USAFMC (San Antonio, Texas); and USAF Medical Center Keesler (Biloxi, Mississippi). Interestingly, one of the reasons cited for implementing partnership cardiovascular surgery services at WPMC was the "nationwide and Air Force data" indicating that only 35% of all potential patients are medically suitable for transport to a distant referral center. If this was indeed the case, it would seem that the same criteria would apply within DOD, thereby limiting the transfer of prospective patients to WPMC. The formal proposal for cardiovascular surgical services was submitted to Headquarters Air Force on 6 October 1988 after approximately 12 months of staff work. The contracting process to find a suitable group practice was started in early 1989, and the agreement with Valley Cardiovascular and Thoracic Surgeons, Inc., was signed on 24 January 1990. The agreement stated that services would start as soon as possible. However, as a result of the time required to

coordinate acqusition of equipment and personnel with the scheduling of patients, cardiovascular surgical services at WPMC were not initiated until 20 March 1990.

In trying to determine the historical workload that this proposal was based on, actual figures proved difficult to obtain. Proposal W-P #8803 reveals no actual historical workload, only the statement that "... 650 cardiac catheterizations are performed per year. Of these, approximately 30%, or 195, are referred for bypass surgery." After eliminating 45 as non-CHAMPUS eligible (30 as active duty, 7 as being older than 65 years of age), this proposal estimated that 113 CHAMPUS-eligible cases per year (2. 17 per week) would be done at WPMC every year. The proposal states that all active duty and Medicare cases will be performed in-house, generating a final workload estimate of 150 cases per year.

Unfortunately, these workload projections have not been met to date. Figure 4 (*see page 41*) illustrates the total number of surgeries performed (CHAMPUS,Non-CHAMPUS, and Total) in the first 23 months of the program. A total of 114 open-heart surgeries were performed during this period. An interesting point to note here is the very slow rate of increase in cases performed as indicated by the regression line. An interesting comparison at this point can be made here by listing the numbers and cost of open-heart surgeries within DOD Healthcare Region VI on both CHAMPUS-eligible and other patients. Figure 5 (*see page 42*) shows that the weekly and monthly projections for the program were 2.9 and 12.5 cases respectively, while the actual averages were 1.3 cases per week and 5 cases per month for the entire period. The WPMC Managed Health Care office

has determined that the breakeven point for this program is 3.5 surgeries per month.

While detailed analaysis is not available at this point in time for the entire period of the partnership agreement, there is a well-defined body of knowledge about Fiscal Year 1991 workload data. Figure 6 (*see page 43*) breaks down FY 91 workload by funding source - CHAMPUS, Medicare, or Active Duty.

A key element of the partnership cardiovascular surgery agreement is that WPMC is reimbursed only for CHAMPUS-eligible patients. WPMC is forced to absorb the cost if a surgery is done on active duty or Medicare patients. While over 90% of the open-heart surgeries done in Fiscal Year 1991 were performed on CHAMPUS-eligible patients, this might have been a factor in the lower-than- projected total program savings. Figure 7 (*see page 44*) is abreakdown of cardiovascular surgery at WPMC in Fiscal Year 1991 by area - catchment area or non-catchment area. For a program that was designed to increase access for patients within all of DOD Healthcare Region VI, this slide shows a definite bias toward patients within the catchment area. This data indicates a need for both more information about beneficiaries in the region, and greater control over where they are referred for surgery. Finally, figure 8 (*see page 45*) is a combination of the previous two figures, and displays Fiscal Year 1991 workload by both area and source of payment. While the sample size is not very large, the numbers presented demonstrate a similarity of distribution that suggests a possible bias towards CHAMPUS patients - as might be expected. Since the Partnership cardiovascular surgical effort was funded through CHAMPUS, and USAF Medical Center Wright-

Patterson receives direct reimbursement only for CHAMPUS-eligible patients, it is just good business to seek out CHAMPUS-eligible patients.

While there is a limited amount of data available for comparison with other catchment areas and Department of Defense Healthcare Regions, a number of interesting comparisons can be made with the available FY 1990 and 1991 data. For example, in-house data shows that in the last seven months of FY 1990, 31 open-heart surgeries were performed at WPMC, while CHAMPUS paid for 23 open-heart surgeries in the WPMC 40-mile catchment area. In Fiscal Year 1991, WPMC performed a total of 62 open-heart surgeries; during the same period, CHAMPUS paid for only seven open-heart procedures within the catchment area. While this 70% reduction in open-heart surgeries performed within the region might be coincidental, further study is warranted to determine if the partnership cardiovascular surgical program was the cause for the decrease.

Unfortunately, workload and cost data is not yet available through the Financial Accounting Support System for all of DOD Healthcare Region VI. While data is available for the non-catchment areas, data has not been loaded for the other 11 medical treatment facility catchment areas in the region.

Two important aspects of the Partnership cardiovascular proposal were standby for in-house angioplasties performed by Air Force cardiologists, and cost savings to CHAMPUS. Figure 9 (*see page 46*) describes the number of angioplasties performed in-house. This graph shows not only a strong positive regression, but that the actual workload surpassed the estimate given in the cardiovascular proposal. This is in spite of the fact that PTCAs are typically done only two days a week, prior to the start of scheduled open-heart cases. There are two reasons for this inflexible schedule: first is that workload to

date has only generated scheduled O.R. time two days a week; and second, that practice standards require the availability of an open-heart team and open-heart room while a PTCA is being performed.

This dichotomy raises the issue of the presence of a possible "Catch 22" situation between cardiology and cardiovascular surgery. In the "Year Book of Medicine" for 1991, Dr. Eugene Braunwald notes that "coronary angioplasty (PTCA) has come of age in the last two years. It was carried out in an estimated 250,000 patients in the United States in 1990" (Yearbook of Medicine, 1991). Both a review of the literature and discussions with a practicing cardiologist indicate an increased aggressiveness on the part of cardiologists in performing serial PTCAs on patients with coronary artery disease. This directly contradicts a quote from the 1991 "Year Book of Cardiology", where cardiac surgeon John Collins stated, "This very interesting paper emphasizes the more limited efficacy of angioplasty when compared with direct myocardial revascularization surgery." If cardiologists are pursuing PTCA more aggressively, it is logical to infer that fewer coronary artery bypass graft procedures will be performed. In fact, this might be one of several reasons why anticipated cardiovascular surgical workload has not reached estimated levels at WPMC. In addition, cardiology workload at WPMC has a direct bearing on the overall cost saving to date, since the group that is performing surgeries at WPMC is being paid $2000 per case to stand by for the performance of PTCA's. Since the number of PTCA's is larger that projected, another possible reason for cost savings that have been less than projected becomes apparent. Finally, Figure 10 (see page 46) demonstrates "Total Program Savings" from October of 1990 through January of 1992. The two most notable aspects of this graph are the negative regression line, and

the large amount of black ink below the line that indicates "negative cost savings" (ie, costs) for CHAMPUS-eligible patients. This is directly related to the lack of CHAMPUS-eligible surgeries being performed.

3.3 Marketing Plan:

What follows is a synopsis of what has been noted in this facility as a result of observation, interviews, and research. It is presented using a combination of two formats for a marketing plan. It is not intended to be the formal marketing plan for the facility, but a guideline for establishing a formal marketing plan specifically for the "product line" of cardiovascular surgery. Marketing as a functional area within USAF Medical Treatment Facilities is a fairly recent development. Various functional areas within the facility have traditionally done what might be considered marketing - Nutritional Medicine, Pediatrics, and Pharmacy, to name a few. Health Promotions has become an area of concentration within the last few years, as well as wellness programs such as smoking cessation and weight control. The creation of a Public Affairs Office at USAF Medical Center Wright-Patterson with a full-time staff, as well as the hiring of a marketing specialist in the Managed Care directorate, indicate the importance now being placed on health care marketing at WPMC.

Program Evaluation

The initial portion of the marketing planning process is variously called a "situation analysis," "background assessment," "environmental analysis," or "needs assessment." As stated previously in this paper, the purpose here is to "describe the major factors that are confronting the organization," as well as

to identify customer needs that are not being met. What differs in the presentation this segment of the marketing plan in this paper is best stated by Crompton and Lambe, who wrote that "needs assessment is designed to identity and analyze market opportunities, **while program evaluation evaluates on-going services** (bold-face added)."

The design and implementation of a marketing plan at USAF Medical Center Wright-Patterson *might* be based on the ideas presented in a pamphlet produced at WPMC entitled "**A Personal Message To All Members Of The Medical Center.**" In this publication, the Medical Center Commander and the members of the Quality Council presented the basis for a change in the customers are thought about at WPMC, as well as a change in the way health care is delivered at WPMC. The key elements of this "Call to Arms" were the formal introduction of both the Vision and Mission statements of the Medical Center, which are based on similar statements made by the Air Force Logistics Command and refined by the Quality Council. Key to the Vision Statement is the revelation that "... the process must enable the medical center to deliver reasonably priced, state-of-the-art medicine and service to meet the needs of our patient population." The Quality Council next defined the Medical Center Mission as "HEALTHCARE." Of the five elements of the mission presented, the one that most reflects both the purpose of this paper and of a marketing plan is the goal of "*Providing highly specialized quality referral healthcare services in support of DOD Healthcare Region VI.*" Finally, this forum was used to present five "**Concepts that Our Organization Highly Values.**" These include:

a) Professionalism;

b) Team Work;

c) Customer Focus;

d) Employee Focus; and

e) Continuous Improvement.

The value that might be most applicable to the purpose and focus of a marketing plan is that of Customer Focus. The Medical Center pamphlet states that "*We believe our medical center exists to serve all our customers, both internal and external. Our every action must be focused on meeting and exceeding our customer's needs with compassion, respect, and dignity.*"

In an era of downsizing for the military, and decreases in authorizations for both personnel and equipment, military medical treatment facilities face the unenviable task of providing ever-increasing amounts of care for an ever-increasing beneficiary population. USAF Medical Center Wright-Patterson is being recognized as a leader in the shift to Continuous Quality Improvement as fostered by the JCAHOs "Agenda for Change." The cultural change this shift requires is being facilitated through the use of knowledge and skills integral to the concept of Total Quality Management.

Marketing Objectives

While the overall objectives and goals of the organization are clearly stated in the situation analysis, the specific objectives and goals of the partnership cardiovascular surgical program are harder to delineate. It is evident from a review of the workload figures and discussions with the Chiefs of both the Departments of Medicine and Cardiology that the Cardiology Service is

performing at close to the maximum level of output. In addition, USAF Medical Center Wright-Patterson has submitted a proposal to Headquarters Air Force for the addition of a second cardiac catheterization laboratory equipped with the most up-to-date equipment. While this laboratory will be co-located with the original laboratory, a key element of the proposal is that additional staffing allocations will not be required and will not be requested. In a meeting between the two department chiefs and the personnel responsible for the marketing of cardiovascular services within the Managed Health Care directorate, the subject of marketing cardiology services was broached. It was explained that this effort should focus on the marketing of these services to referring physicians within DOD Healthcare Region VI in order to modify the type and severity of the case mix of cardiology patients being referred to WPMC. The more aggressive use of cardiology procedures *might* tend to decrease the workload of an open-heart program if the patient population is not large enough. Clearly, the overall objective of any marketing plan for cardiovascular surgical services at USAF Medical Center Wright-Patterson is to increase the number of procedures to the point that cost savings at least level off, or even increase, rather than to continue to steadily decline as shown previously.

Marketing Strategy

There are a number of components from the formats listed previously that are applicable here. Key among these is the concept of the target market. While it has been acknowledged previously in this paper that there are two primary customers in this process (ie, the patients requiring cardiology services, to include cardiovascular surgery, as well as referring physicians

within DOD Healthcare Region VI), the more accessible and influential is the physician. In addition to focusing on physicians as the target market, the literature discusses the need for a "core strategy." A possible core strategy for cardiovascular surgical services at USAF Medical Center Wright-Patterson is "To generate sufficient additional workload, both locally and within DOD Healthcare Region VI, to reverse the negative trend in savings generated from this program." The keys to this core strategy are communication with and information from the key customers. The specifics of these efforts will be presented in the next section.

Marketing Programs

Called both marketing programs and "action programs" (Crompton and Lambe, 1986) in the literature, the vital aspect of this segment of the marketing plan is the coordination of all marketing efforts throughout the medical center. To date, several innovative programs have been designed and pursued. First, the Medical Information Systems section at WPMC purchased an off-the-shelf electronic bulletin board shell program, and modified it with input from a variety of personnel within the medical center. This "DOD Region VI Electronic Bulletin Board" (**SHARENET**) was presented at the DOD Region VI Conference at Grissom AFB in October of 1991. Copies of the requisite software and a users manual were made available to all participants after the demonstration.

Next, a potential pamphlet describing the capabilities of both the cardiology department and the cardiovascular surgery program was designed by the marketing specialist in the Managed Health Care directorate. A key element of this effort was the planned acquisition of digital electronic pagers by the

Department of Cardiology that would permit 24-hour-a-day access to the on-call cardiologist for the coordination of both treatment and transfer of cardiology patients within the region.

Finally, a survey was constructed that would allow WPMC to survey the attitudes and desires of referring physicians within DOD Healthcare Region VI. This instrument was designed within the Managed Health Care Directorate and approved by the Executive Committee.

An idea that has been discussed within the facility but apparently not yet acted upon is a "road show" by several members of the staff with the specific intent to market these services to other facilities (and providers) in the region. Possible composition of this team could be a specialists from marketing, public affairs, Beneficiary Services, aeromedical evacuation, and, most importantly, a physician - preferably a cardiologist. This effort would go a long way to make our "customers" more cognizant of the services available at WPMC. A variation of this effort that might prove viable is to identify the physicians within the region with the greatest potential for referrals, and spend WPMC money to bring these individuals to WPMC in order to brief them on the strength of the services available.

As stated in the beginning of this section, the coordination of these efforts is vital to the overall success of the partnership cardiovascular surgical program. A larger question is the overall direction of the marketing effort, especially marketing planning efforts. To date, there seems to have been no executive-level forecasting or planning specifically for this process.

Evaluation

In order to better monitor and control this process, timely data is essential. Managed Health Care has recently gained access to a data base that allows on-line access to the most recent CHAMPUS expenditure figures for the region. The program monitor for the cardiovascular program is already compiling timely and accurate data for procedures and expenditures within the facility, and the addition of CHAMPUS expenditures in other Region VI catchment areas would most certainly permit both the monitoring and control of marketing efforts for cardiovascular surgery.

IV. DISCUSSION

4.1 Demographics:

It would seem that an accurate description of both the demand for services and the ability to perform them at USAF Medical Center Wright-Patterson is "doing much more with much less." A critical and on-going discussion during this year at WPMC has been the sharp decrease in the number of nurses and technicians available to Nursing Services to man inpatient units and outpatient clinics. Add these to the projected increases in population and workload, and an opportunity exists - either to fail badly or "make it through the rapids."

An issue to be addressed during this project was to confirm the accuracy of demographic data available to this facility. Unfortunately, it was discovered that the previously stated suspicions regarding RAPS data are still present. The DMIS system confirmed that the baseline data used to calculate workload and population projections in the RAPS system had not been updated since 1989. In a normal situation, this data could not be considered

timely; add the previously addressed problems associated with the long-term major construction project at WPMC and accuracy becomes an even more important problem. While the Financial Accounting Support System had been made available to this facility, it appears that timely uploads of data into this system for all catchment areas is not yet being accomplished. Efforts within the facility to implement the OASD(HA) "Coordinated Care Program," as well as any marketing efforts, will be seriously handicapped by this inability to obtain and manipulate timely and accurate data.
In addition to difficulties noted above in external data sources, medical information systems are in a state of flux at WPMC. While this facility has been chosen as the second Department of Defense medical treatment facility to install the "Medical Diagnostic Imaging System (MDIS)," the Composite Health Care System (CHCS) will not be available for several years - if at all. CHCS is supposed to bring DOD medical information systems and facilities into the 21st century, and be the basis for all future developments - but is projected *after* a state-of-the-art radiology system here at WPMC.

While the current group of systems is performing adequately, they are not integrated within the facility or with outside systems, such as the Defense Eligibility Enrollment and Reporting System (DEERS). Conversely, personal computer and software access and support is excellent and continues to improve.

4.2 Workload Data:

Unfortunately, any effort to market cardiovascular surgical services at WPMC will be hampered by the same variety of problems facing accurate demographic data collection. An immediate problem facing the partnership

cardiovascular surgical program at WPMC is the slow but steady decrease in both surgeries performed and savings generated. It might be argued that any savings generated make the program worthwhile; however, some might argue that at some point personnel and money might be better used in some other program(s).

4.3 Marketing Plan:

A telling quote from the previous Graduate Management Project performed at USAF Medical Center Wright-Patterson on the status of surgical services at WPMC contends that "management must develop specific strategic objectives with respect to the expansion of surgical services" (Lewis, 1991). Unfortunately, specific guidance for marketing efforts for cardiovascular surgical services, based on an overall strategic plan, have not been generated to date. Any guidelines for the direction of marketing efforts must be a coordinated effort between all departments involved. While interdepartmental (ie, "cross-functional") efforts are in place and have been successful, and are becoming more common as a result of the promulgation of Total Quality Management (TQM) at WPMC, a specific effort addressing an overall marketing effort has not been initiated.

As a result of this lack of direction, specific individual attempts at marketing cardiovascular surgical services at WPMC has been sporadic. Several potentially effective individual efforts have been stalled or abandoned because of the rapidly changing environment facing military medicine. For example, the initiative to start an electronic bulletin board for the region has met with limited success due to a number of technical problems. Next, the effort to publish a brochure about cardiology and cardiovascular services at

WPMC has been temporarily halted. Finally, the survey instrument designed to determine provider attitudes within DOD Healthcare Region VI has not been promulgated. One positive note is the aggressive efforts being made by the WPMC Public Affairs Office to keep the public informed about developments at WPMC, and to present this facility in a positive light to all our customers.

An important development in both the Department of Defense and civilian health care arenas is the development and potential implementation of a "Centers of Excellence" concept for certain high-cost, high-technology treatments and procedures. This "Center of Excellence" concept is one by-product of the healthcare industry's attempt to address the three basic determinants of healthcare - cost, quality, and access. The focus of the "Center of Excellence" principle is the designation of a facility (or group of facilities) in a healthcare system as the preferred source for the provision of a specific type of care or specialized procedure, based on outcome and cost data. When a facility is so designated by a payor (ie, insurance company, health maintenance organization, or military medical treatment facility), a beneficiary must have a treatment or procedure performed at that facility. Medical status of the patient and other factors are considered, but the center of excellence must be considered first in the referral process by the physician. A recent issue of the American Hospital Association News announced the introduction of " ...a national network of hospitals that have exceptional clinical programs specializing in heart transplants, bone-marrow transplants, or coronary-artery bypass graft (CABG) surgery" (AHA News, 23 Mar 1992). This article does not discuss the issue of requiring beneficiaries to utilize only the designated network facility for care, or the concept of financial penalties

for not doing so, but the message to both providers and beneficiaries is clear nonetheless. The director of this new network states that "the hospitals accepted into this network will receive incremental new business they otherwise would not have had because we will be marketing outside their standard service areas" (AHA News, 23 Mar 92).

This issue has been addressed in the Department of Defense health care market place in the "Coordinated Care Program" guidelines published by the Office of the Assistant Secretary of Defense for Health Affairs [OASD(HA)] on 2 January 1992. In this program outline, OASD(HA) discusses the "four key features of the Coordinated Care Program." These features include:

1. Delivery of Care;
2. Organization of Health Care Delivery;
3. Accountability; and
4. Controlling/Measuring Costs.

A vital aspect of one of these key elements, "Organization of the Delivery of Healthcare," is the military version of the "Center of Excellence" - the "Specialized Treatment Facility (STF)." The Coordinated Care Program guidelines state that "for certain high-technology,high-cost procedures, the Specialized Treatment Facilities (STFs) will be established on a national or regional level." In addition, the program outline also states that "the designation of STFs will be based on readiness, quality, and cost considerations." Finally, the issue of beneficiaries being required to utilize a designated STF is addressed with the statement that "*if beneficiaries do not*

use an STF when one is designated and available, they will be responsible for paying for the full cost of their care."

This concept is presented at this point in the presentation because the executive management team at USAF Medical Center Wright-Patterson, in keeping with their history of innovations in health care delivery, has made the decision to pursue designation of WPMC as a regional Department of Defense Specialized Treatment Facility for cardiovascular medicine to include open-heart surgery. Key factors that convinced the Executive Committee to pursue this goal include:

a. proven facility capabilities (ie, "readiness") in personnel, equipment and physical plant;
b. an effective and aggressive cardiology program; and
c. cost-effectiveness and potential savings for CHAMPUS and Department of Defense within DOD Healthcare Region VI.

There are at least three options available to planners for the key element of a successful program (ie, an outstanding surgical team). First, the continued utilization of the current group, (or a new group) at a negotiated CHAMPUS reimbursement rate that will ensure adequate cost savings. Second, the assignment of "blue suit" Air Force cardiovascular surgeons and perfusionists to USAF Medical Center Wright-Patterson. Or third, a combination of Air Force personnel and partnership personnel. This last scenario might occur by default, as both an active duty cardiovascular surgeon and perfusionist are projected for assignment to Wright-Patterson in the summer of 1992. The immediate effect that this could have on the program

would be the ability to stop paying stand-by costs for a "heart team" during the performance of angioplasties. If the STF proposal is approved, any planning or marketing efforts currently in place will need an immediate revision. Better still, design of a contingency plan now would be the ideal reaction.

V. CONCLUSIONS AND RECOMMENDATIONS

Utilization of partnership cardiovascular surgical services at USAF Medical Center Wright-Patterson, and corresponding CHAMPUS savings, have not reached the levels projected in the original proposal. Reasons include: unreliable population and workload data; lack of a coordinated marketing effort; and no clear direction or focus by the Executive Committee for this program to date.

Market share analysis of the limited data available at this time suggests a possible potential for the increased utilization of this service within both the local and "expanded" catchment areas, as well as within Department of Defense Healthcare Region VI. The key to an increase in utilization of this service is a change in the referral patterns of both referring physicians and facilities. These practice patterns might best be assessed through the use of data that should be available in the immediate future, as well as a survey instrument already in the facility that can be used to assess provider attitudes. A marketing effort based on this data and tied to the strategic plan is critical.

Most importantly, cardiovascular surgical services - either partnership or a Specialized Treatment Facility program - must receive the full and undivided attention of the executive committee as an integral part of the strategic plan. The potential to enhance the viability of the Medical Center exists with a successful cardiovascular surgical program. The current program has not hada major affect on the facility and its personnel, but the increased workload that designation as an STF would bring might cause traumatic changes if not planned for.

Open-heart surgery at USAF Medical Center Wright-Patterson is a reality. The process, albeit flawed, is in place. The journey towards a Total Quality environment at WPMC has provided the tools and the motivation for personnel to begin fixing this process. With an improved marketing process, WPMC can become a Department of Defense "Center of Excellence" for cardiovascular surgery.

Figure 1

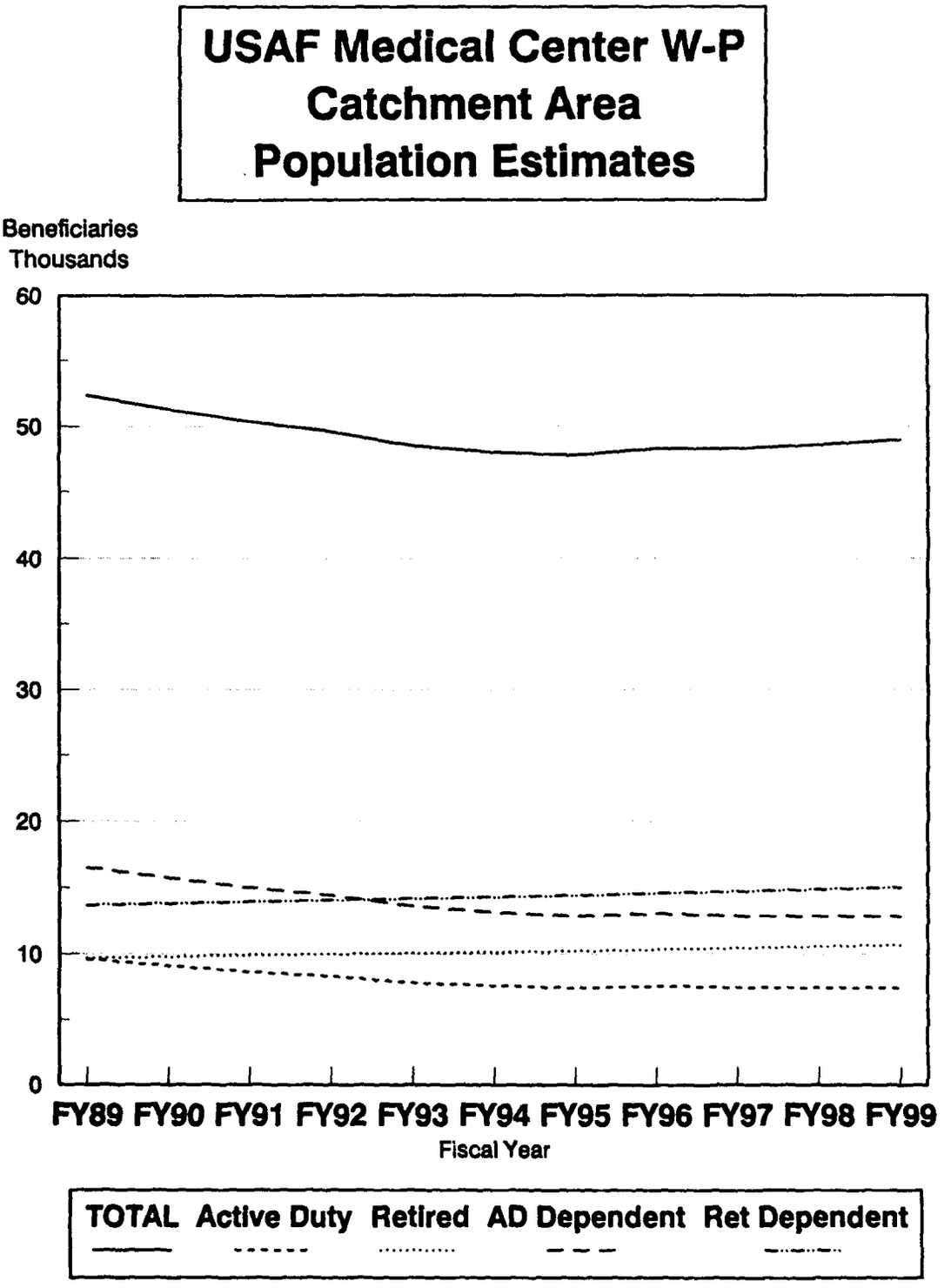

USAF Medical Center W-P
Catchment Area
Population Estimates
Beneficiaries
Thousands
60
50
40
30
20
10
0
FY89 FY90 FY91 FY92 FY93 FY94 FY95 FY96 FY97 FY98 FY99
Fiscal Year
TOTAL
Active Duty
Retired
AD Dependent
Ret Dependent

Figure 2

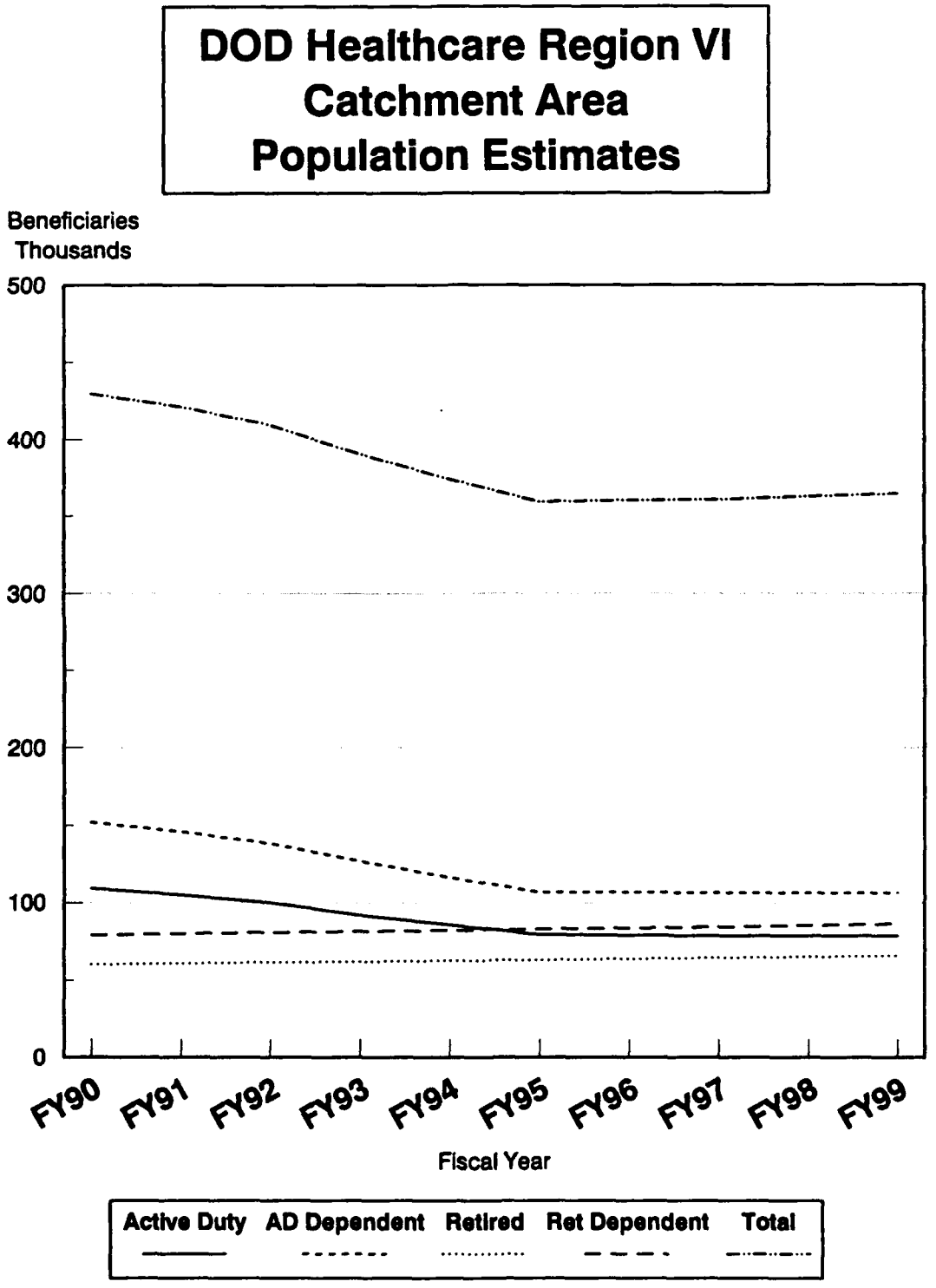
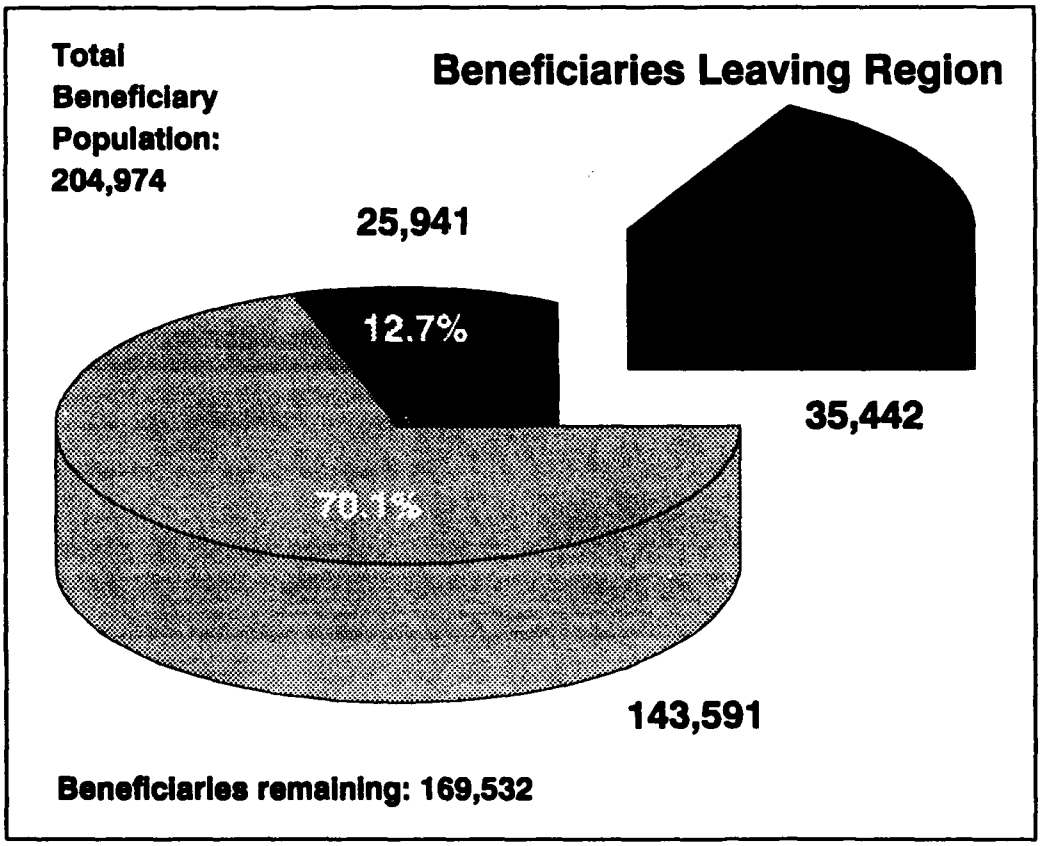

DOD Healthcare Region VI
Catchment Area
Population Estimates
Beneficiaries
Thousands
500
400
300
200
100
0
FY90
FY91
FY92
FY93
FY94
FY95
FY96
FY97
FY98
FY99
Fiscal Year
Active Duty
AD Dependent
Retired
Ret Dependent
Total

Figure 3

Status of Beneficiaries at DOD Healthcare Region VI Bases* After BRAC Actions



AD/Dependents | Retired/Dependents | Beneficiaries Outside Catchment Area

* Bases/MTFs to be closed: Chanute AFB, Grissom AFB, Wurtsmith AFB, Fort Benjamin Harrison

Figure 4

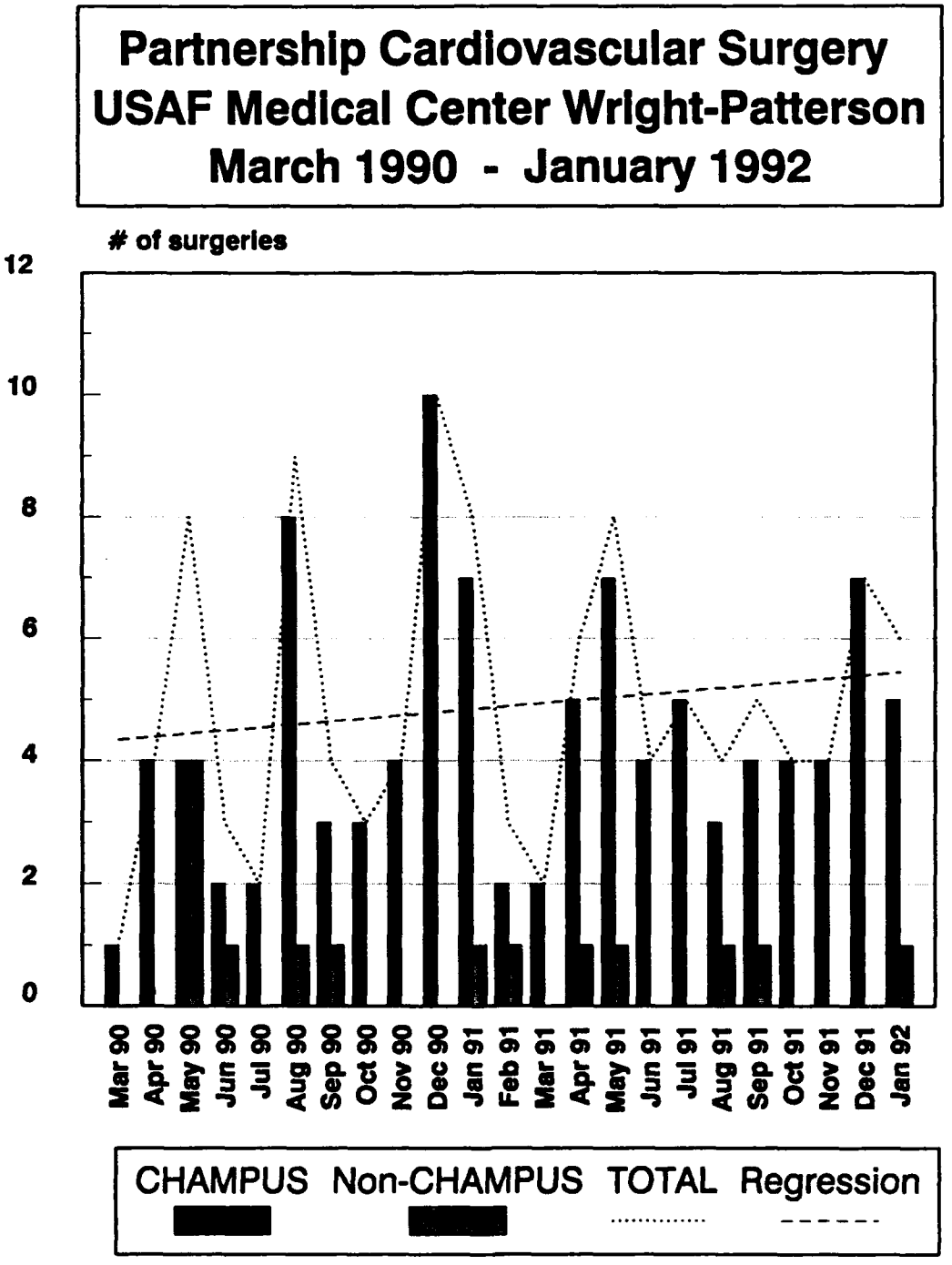

Partnership Cardiovascular Surgery
USAF Medical Center Wright-Patterson
March 1990 - January 1992
# of surgeries
12
10
8
6
4
2
0
Mar 90
Apr 90
May 90
Jun 90
Jul 90
Aug 90
Sep 90
Oct 90
Nov 90
Dec 90
Jan 91
Feb 91
Mar 91
Apr 91
May 91
Jun 91
Jul 91
Aug 91
Sep 91
Oct 91
Nov 91
Dec 91
Jan 92
CHAMPUS
Non-CHAMPUS
TOTAL
Regression

Figure 5

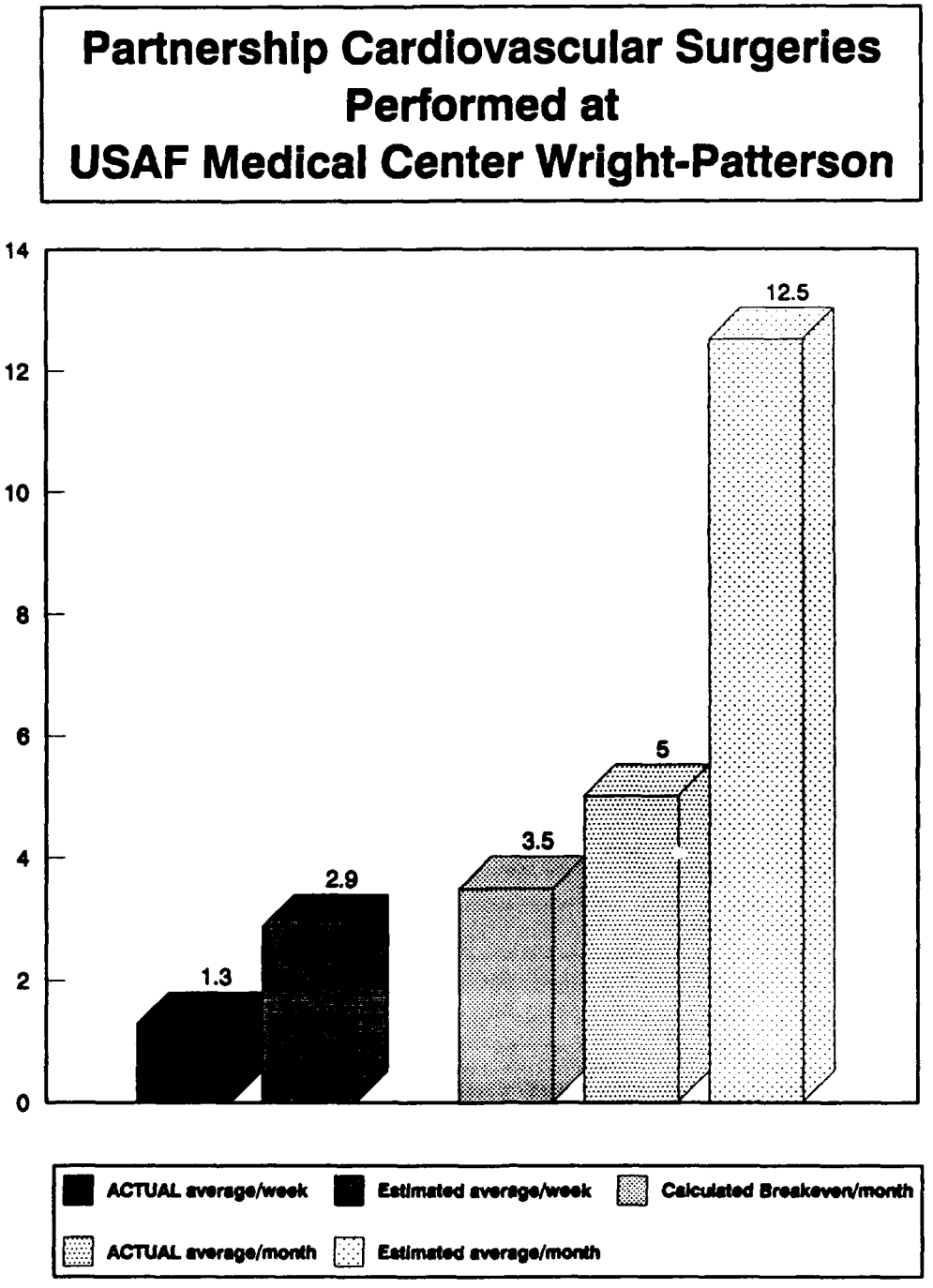

Partnership Cardiovascular Surgeries
Performed at
USAF Medical Center Wright-Patterson
14
12
10
8
6
4
2
0
1.3
2.9
3.5
5
12.5
ACTUAL average/week
Estimated average/week
Calculated Breakeven/month
ACTUAL average/month
Estimated average/month

Figure 6

Partnership Cardiac Surgery
USAF Medical Center Wright-Patterson
FY 91 Workload Analysis

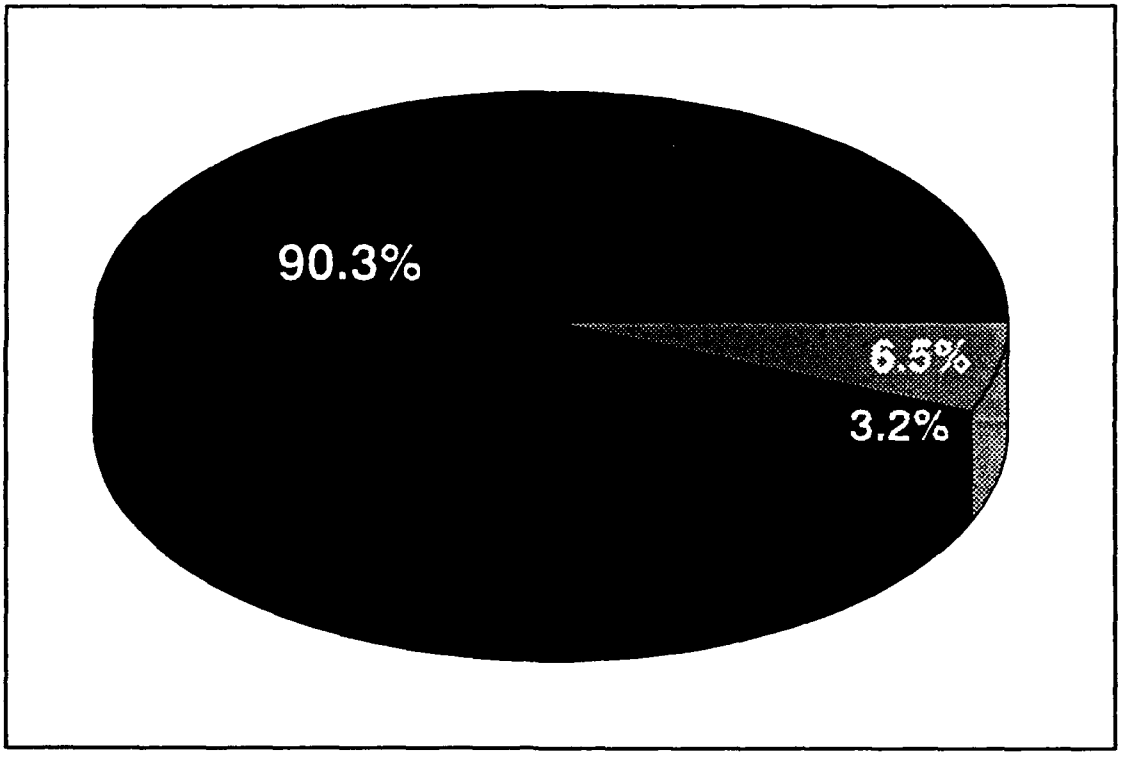


Figure 7

Cardiac Surgery FY 91
Catchment VS Non-Catchment Workload
USAF Medical Center Wright-Patterson

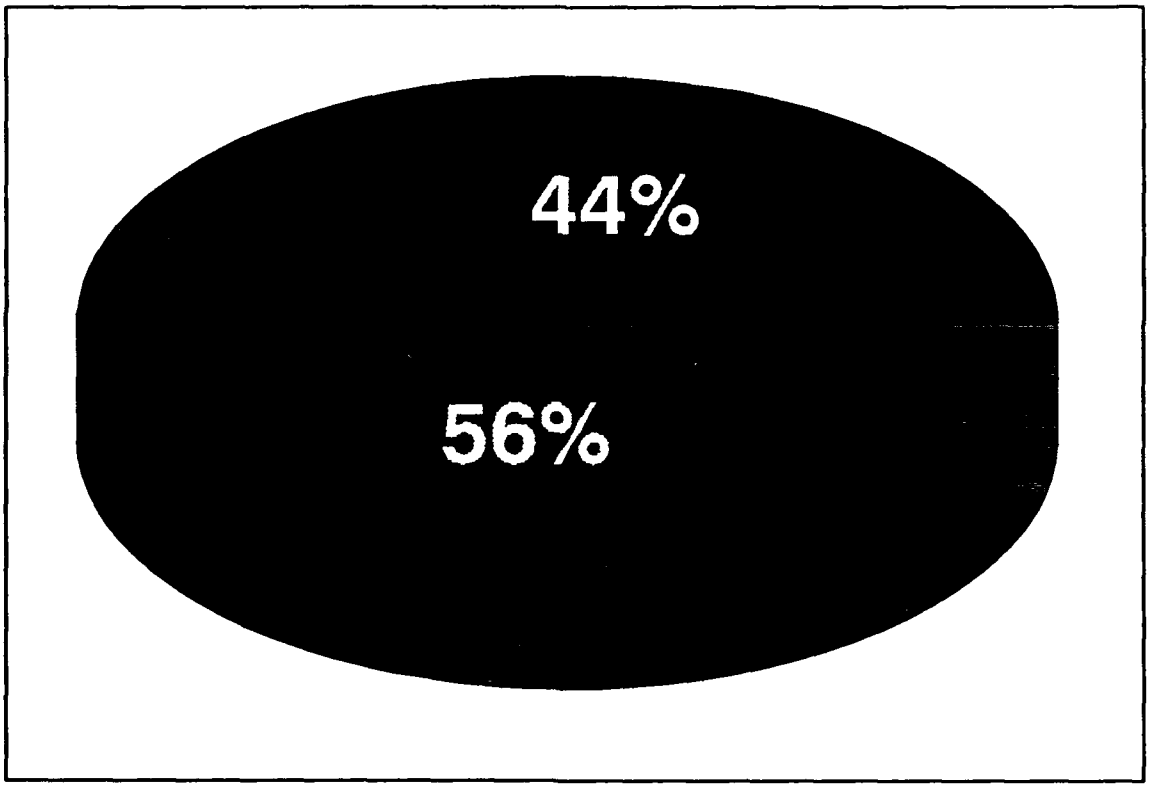


Figure 8

WPMC FY91 Cardiovascular Surgery Catchment VS Non-Catchment Workload By Patient Category

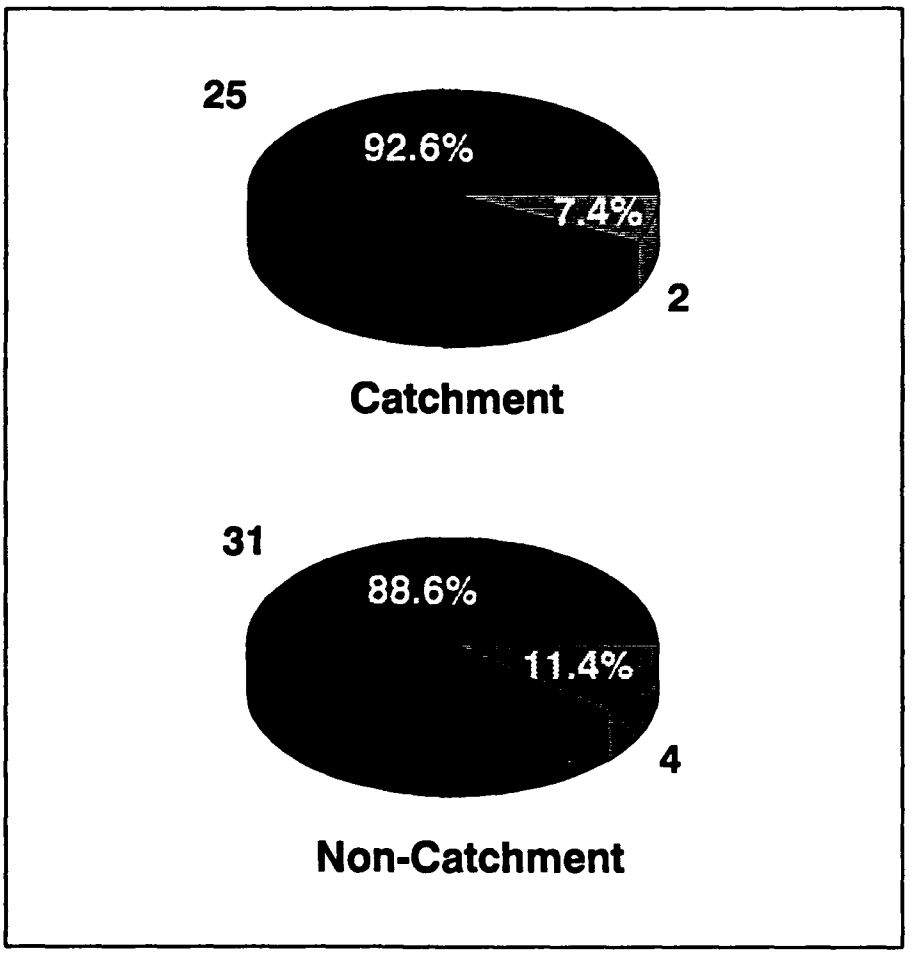


Figure 9

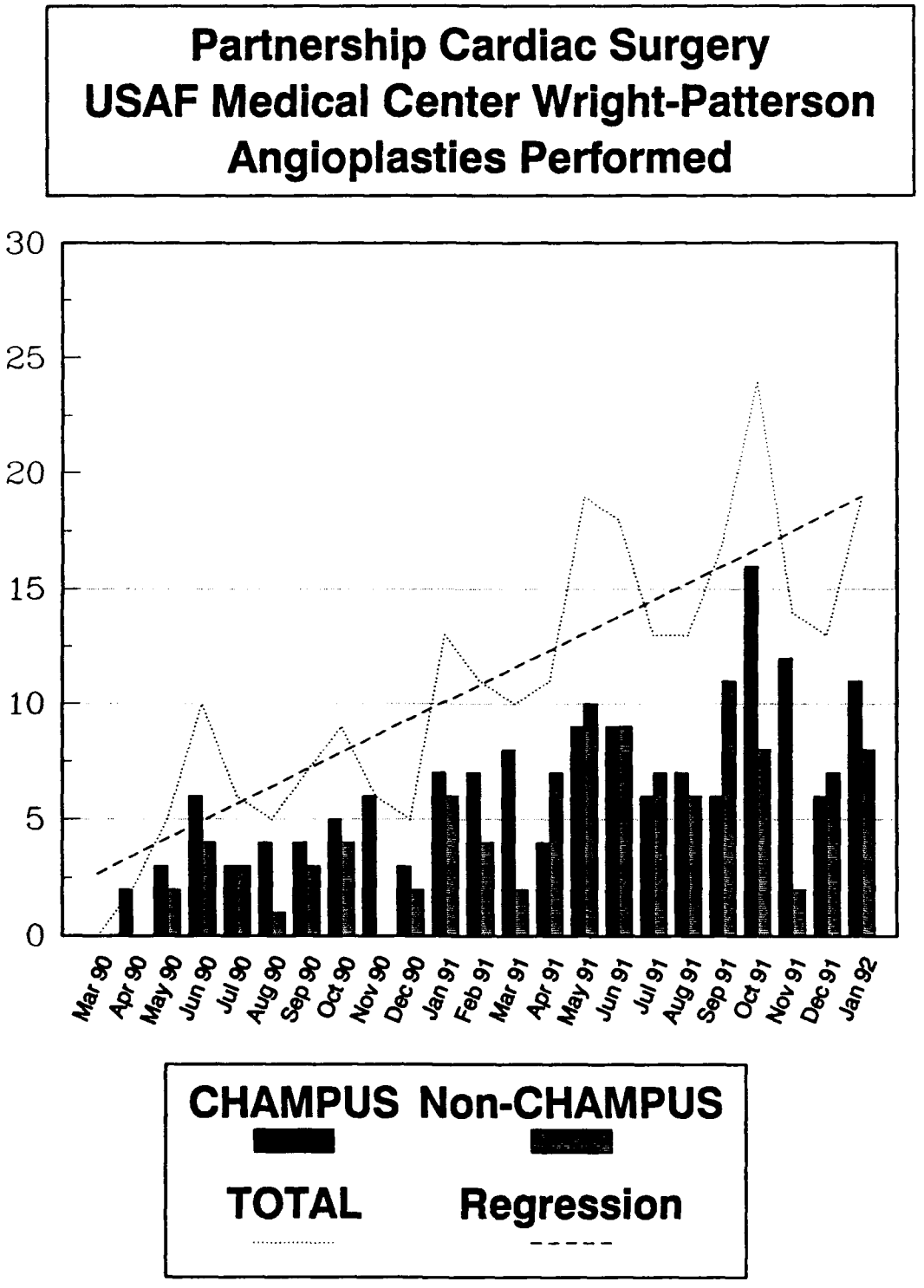
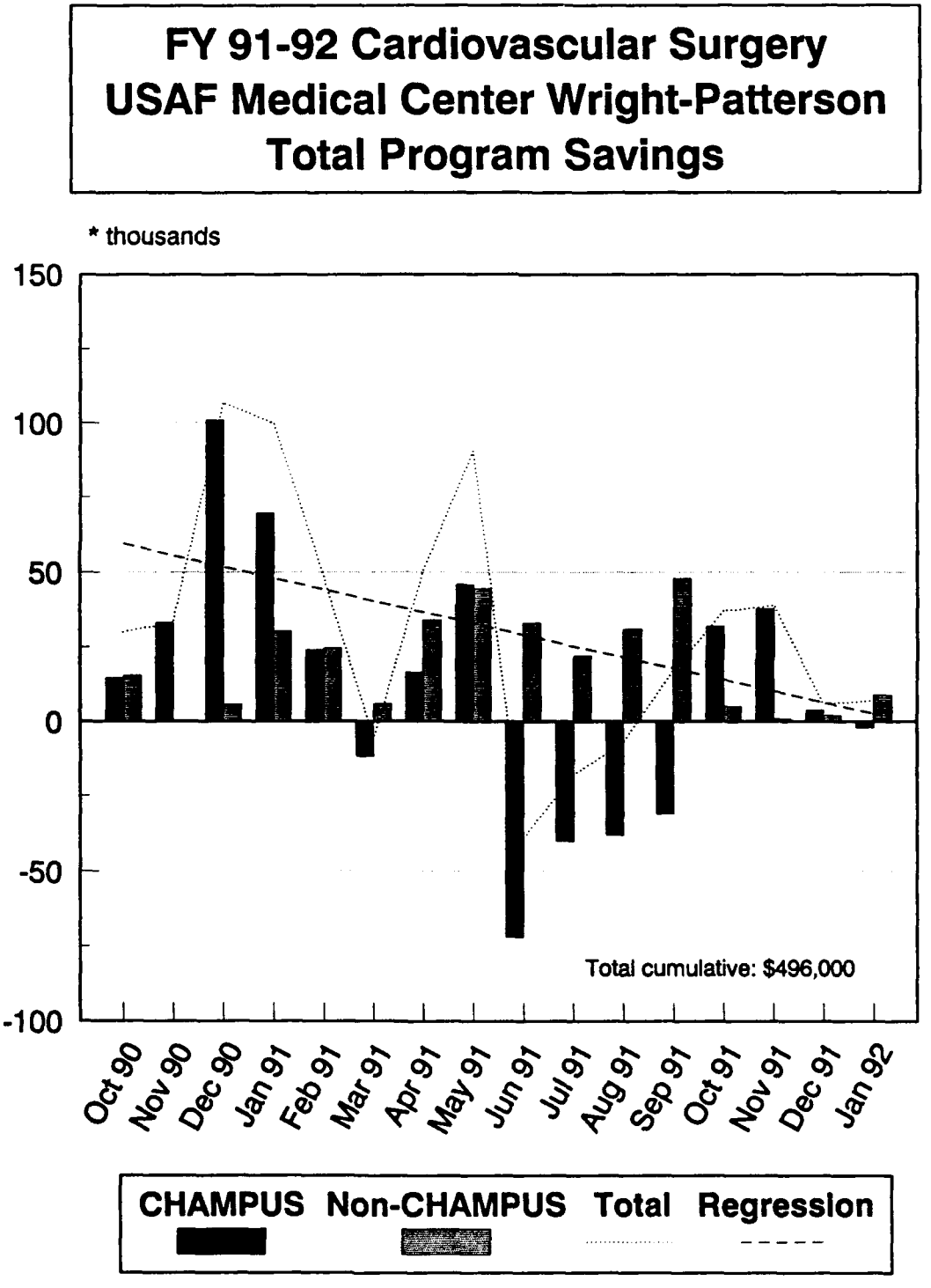

Partnership Cardiac Surgery
USAF Medical Center Wright-Patterson
Angioplasties Performed
30
25
20
15
10
5
0
Mar 90
Apr 90
May 90
Jun 90
Jul 90
Aug 90
Sep 90
Oct 90
Nov 90
Dec 90
Jan 91
Feb 91
Mar 91
Apr 91
May 91
Jun 91
Jul 91
Aug 91
Sep 91
Oct 91
Nov 91
Dec 91
Jan 92
CHAMPUS
Non-CHAMPUS
TOTAL
Regression

Figure 10


FY 91-92 Cardiovascular Surgery
USAF Medical Center Wright-Patterson
Total Program Savings
* thousands
150
100
50
0
-50
-100
Total cumulative: $496,000
Oct 90
Nov 90
Dec 90
Jan 91
Feb 91
Mar 91
Apr 91
May 91
Jun 91
Jul 91
Aug 91
Sep 91
Oct 91
Nov 91
Dec 91
Jan 92
CHAMPUS
Non-CHAMPUS
Total
Regression

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